TELECOMMUNICATIONS SERVICE CREATION APPARATUS AND METHOD

This application is a continuation of application Ser. No. 07/846,228 filed Mar. 6, 1992, now abandoned.

TECHNICAL FIELD

This invention relates to telecommunications systems and services and more particularly to an improved apparatus and method for creating telecommunications services.

BACKGROUND OF THE INVENTION

As telecommunications networks have historically developed the software that defines and implements a telecommunications service or feature is programmed into each switching system by the switch vendors. Switch-generic software also supplies information to the operating systems that service providers use to track, maintain, and administer their networks, and the interfaces between these systems must be considered in service creation.

A new service is usually first defined in marketing terms and then redefined in terms of specific technical implementations prioritized against other services and then deployed. This process, along with planning and developing operations support, is significantly time consuming. There are now under development preliminary versions of intelligent networks which are in the process of deployment as Advanced Intelligent Networks and FIG. **1** illustrates a typical proposed configuration.

FIG. **1** is a schematic block diagram of the components of an AIN showing some detail of the system. In this figure, each of the CO's are labeled as a Service Switching Point, referred to as an SSP. SSP's are appropriately equipped programmable switches present in the telephone network which recognize AIN type calls, launch queries to the Service Control Points (SCP's) and receive commands and data from the SCP to further process the AIN calls.

As shown in FIG. **1**, all of the CO's **11**, **13**, **15** and **17** are equipped and programmed to serve as SSP's. Such central office switching systems typically consist of a programmable digital switch with CCIS communications capabilities. One example of such a switch is a 5ESS type switch manufactured by AT&T; but other vendors, such as Northern Telecom and Siemens, manufacture comparable digital switches which could serve as the SSP's.

The SSP's **11** and **13** connect to a first local area Signal Transfer Point (STP) **23**, and the SSP's **15** and **17** connect to a second local area STP **15**. The connections to the STP's are for signalling purposes. As indicated by the black dots below STP's **23** and **25**, each local area STP can connect to a large number of the SSP's. Although not shown in FIG. **1** the central offices or SSP's are interconnected to each other by trunk circuits for carrying telephone services.

The local area STP's **23** and **25**, and any number of other such local area STP's shown as black dots between STP's **23** and **25** communicate with a state or regional STP **31**. The state or regional STP **31** in turn provides a communications link with the ISCP **40** (Integrated Service Control Point). The STP hierarchy can be expanded or contracted to as many levels as needed to serve any size area and to service any number of stations and central offices switches. The links **23** and **25** between the CO's and the local area STP's are dedicated CCIS links, typically SS7 type interoffice data communication channels. The local area STP's are in turn connected to each other and to the regional STP **31** via a packet switched network. The regional STP **31** also communicates with the ISCP **40** via a packet switched network.

As shown in FIG. **1**, the ISCP **40** is an integrated system. Among other system components, the ISCP **40** includes a Service Management System (SMS) **41**, a Data and Reporting System (DRS) **45** and the actual data base of Service Control Point (SCP) **43**. The ISCP also typically includes a terminal subsystem referred to as a Service Creation Environment or SCE **46** for programming the data base in the SCP **43** for the services subscribed to by each individual business customer.

Each central office switching system normally responds to a service request on a local communication line connected thereto to selectively connect the requesting line to another selected local communication line. The connection can be made locally through only the connected central office switching system. For example, for a call from station A to station B the SSP **11** provides the call connection without any connection to another central office. When the called line connects to a distant station, for example when station A calls station C, the connection is made through the connected central office switching system SSP **11** and at least one other central office switching system SSP **13** through the telephone trunks interconnecting the two CO's.

The presently envisioned methodology for providing customized telephone services in the AIN network involves a service creation platform connected to the network to access the data and software in the ISCP. The service creation platform is operated or administered by a company operator in communication with a customer to create on the service creation platform a service logic program.

Referring to FIG. **2** there is shown a graphic depiction of such a program used to create a call screening service. In this example the set of instructions represented by the service-logic program will instruct the switching system to block 900 number calls from the customer's telephone number 908-555-1234 unless personal identification number (PIN) 4321 is entered. This result is brought about by the operator customer interaction to build a tree or graph of the type illustrated in FIG. **2**. The service-logic program thus created will cause the switching system that handles the call from the customer's telephone to play an announcement requesting a PIN if a 900 number is dialed. The call will be routed only if the caller enters the PIN, which has been defined as 4321. Otherwise the call is blocked. All non-900 calls from the telephone are routed as usual. Such a service programming system is described in Bell Core Exchange, January/February 1992 (ISSN0891-4877) Volume 8, Issue 1.

SUMMARY OF THE INVENTION

According to the invention there are provided user friendly, customer operated, off network, standalone stations or terminals which will describe a service to a prospective customer, demonstrate the service to the customer and enable the customer to create a new service or service modification in an unassisted manner in a very short period of time. According to one embodiment of the invention the service advertising, demonstrating and creation station may be provided in a publicly accessible area such as mall or within a retail establishment dealing in communications related merchandise or services. The service station or terminal may comprise a display monitor such as a CRT which is devoid of complex switching mechanisms or controls. Presented in a display on the monitor is an attractive video and audio presentation describing the availability of telephone services and providing additional information